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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,966	10/29/2003	Michael Stanley DeCourcy	A01465	7997

21898 7590 10/11/2006

ROHM AND HAAS COMPANY  
PATENT DEPARTMENT  
100 INDEPENDENCE MALL WEST  
PHILADELPHIA, PA 19106-2399

EXAMINER

JOHNSON, EDWARD M

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 10/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/695,966

Applicant(s)

DECOURCY ET AL.

Examiner

Edward M. Johnson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 6, "the primary combustion zone" and "the downstream waste destruction zone" both lack antecedent basis.

Claim 5, "the product" lacks antecedent basis.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United

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States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-2, 4-7, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Beer US 5,617,715.

Regarding claims 1 and 6, Beer '715 discloses a method for reduction of NO<sub>x</sub> emissions comprising introducing into a combustor and combusting (abstract and claim 1), wherein the combustor comprises two zones and coal waste gas is introduced at a downstream location (claim 7), and wherein hydrogen cyanide is produced and reacted (see column 4).

Regarding claims 2 and 7, Beer '715 discloses a fuel-rich and fuel-lean combustion zone wherein the ratio of fuel to flue gas is 0.1-0.5 (see column 5, lines 10-16 and claim 7).

Regarding claims 4 and 9, Beer '715 discloses combining the waste with a liquid fuel stream (see claim 1 and column 5, lines 8-9).

Regarding claim 5, Beer '715 discloses hydrogen cyanide is produced and reacted (see column 4).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior

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art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-9 rejected under 35 U.S.C. 103(a) as being unpatentable over Cochran et al. US 6,499,412 in view of Beer '715.

Regarding claim 1, Cochran '412 discloses a method for treating waste streams comprising feeding the stream comprising NOx and CO to a thermal oxidizer or combustor and combusting at a location 18, (see column 4, lines 34-56 and Fig. 1), wherein a stream comprising nitrogen, oxygen, NOx, carbon dioxide, CO, VOCs, and water is analyzed at location 20 downstream from 18 (Fig. 1), and wherein the waste may be liquid waste from acrylonitrile, acrylic acide, or methacrylic acid production (column 1, lines 15-35).

Cochran fails to disclose injecting at a downstream location.

Beer discloses injecting at a downstream location (claim 7).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the downstream injection of Beer in the thermal oxidation waste stream treatment method of Cochran because Beer discloses such injection in a process for treatment of reduction of NOx

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emissions comprising introducing into a combustor and combusting (abstract and claim 1) to mix with hydrocarbon fragments of fuel, which would motivate the ordinarily skilled artisan to perform such injection so as to achieve such mixing, as disclosed.

Regarding claims 2 and 7, Beer '715 discloses a fuel-rich and fuel-lean combustion zone wherein the ratio of fuel to flue gas is 0.1-0.5 (see column 5, lines 10-16 and claim 7).

Regarding claims 3 and 8, Cochran '412 discloses the waste may be liquid waste from acrylonitrile, acrylic acide, or methacrylic acid production (column 1, lines 15-35).

Regarding claims 4 and 9, Beer '715 discloses combining the waste with a liquid fuel stream (see claim 1 and column 5, lines 8-9).

Regarding claim 5, Beer '715 discloses hydrogen cyanide is produced and reacted (see column 4).

### **Conclusion**

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Manganaro et al. US 6,444,130 discloses a method for treating waste streams comprising waste slurries, by thermal oxidation (see abstract and description); Holst et al. US 5,650,128 discloses a method

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for destruction of waste gas comprising combustion and non-catalytic destruction (see abstract and column 3).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward M. Johnson whose telephone number is 571-272-1352. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199

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(IN USA OR CANADA) or 571-272-1000.

A handwritten signature in cursive script, appearing to read 'Ed M. Johnson', written in dark ink.

Edward M. Johnson  
Primary Examiner  
Art Unit 1754

EMJ